

ABSTRACT

An apparatus and device for dispensing femtoliter to nanoliter volumes of liquid samples are disclosed. The apparatus includes a liquid-support plate, two electrodes, a substrate, and a control unit. The liquid support plate has a plurality of liquid-support regions, each capable of supporting a liquid meniscus thereon. The first electrode contains a plurality of electrode connections, each operatively connected to one of the liquid support regions, for electrical contact with a meniscus supported in such region. The substrate has a first side confronting the plate and an opposite side, and a plurality of sample-holding regions formed in the first side. The second electrode is disposed adjacent one of the two substrate sides. Thus, a selected volume of the liquid can be ejected from or to one or more of the liquid-support regions to or from one or more of the sample-holding regions.